REPORT on NATIONAL OBSERVER MISSION

<table>
<tr><td colspan="2">Observer name: [First, Surname]</td><td colspan="2">Contact: [Senegalese authorities contact here]</td></tr>
<tr><td colspan="2" rowspan="2">Vessel name: F/V […]</td><td colspan="2">Captain: [First name, surname]</td></tr>
<tr><td colspan="2">Trip No.:</td></tr>
<tr><td colspan="2">DEPARTURE</td><td colspan="2">ARRIVAL</td></tr>
<tr><td>Date (dd/mm/yy):</td><td>Time (GMT):</td><td>Date (dd/mm/yy):</td><td>Time (GMT):</td></tr>
<tr><td colspan="2">Location: [Port of departure]</td><td colspan="2">Location: [Port of arrival]</td></tr>
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1.0 INTRODUCTION

As an independent observer from the Senegalese Department of Maritime Fisheries, my duty is to observe, sample and record estimates of catch per set, noting carefully the species composition and estimate quantities of by-catch and discards and also to ensure master and his crew comply with international regulations concerning the catching and landing of tuna species. [Additional text may be added here.]

2.0 OBJECTIVES

The purpose of the scientific observer programme is to collect independent data on fishing operations, catches and interactions with the environment by the vessels and its fishing to ensure long-term conservation and sustainable use of living aquatic resources. To achieve this as an observer, I am to:

- Monitor closely and report all fishing activities of the vessel.
- To ensure that quality data is submitted by fishing vessel through a proper filling of the ICCAT logbook.
- Estimate total fishing effort, that is position, time and total catch for all hauls.
- Randomly sample for length frequency data.
- Estimate weight of all bycatch.
- Record incidentally captured marine mammals, turtles, sharks and seabirds.
- To monitor fish aggregating device (FAD).
- To monitor endangered species and how the species are handled. Examine and measure fishing gear, scientific data and other observations and take samples in accordance with sampling plans.
- Monitor landed fish and ascertain the weight and species of fish caught and retained while at wharf.
- Conduct biological examination and sampling on fish which includes total count parasites, pathogenic microbes and faecal indication.

3.0 TRIP SUMMARY

[State the vessel on which F/V you were stationed, which company the F/V is owned by, the trip number and dates of the trip.]

4.0 SUMMARY OF FISHING STRATEGY

Tuna purse seine operations are divided into two phases: the search and detection of the fish schools and the fishing event itself.

4.1 Methods of searching and detection of tuna includes:

i. Evaluating different environmental parameters and factors that influence fish spatial and temporal distribution and abundance. These include:
    a. Water temperature.
    b. Water colour and transparency.
    c. Currents, etc.
ii. Acoustic sonar and depth sounders to detect shoals of fish in the immediate vicinity of the vessel.
iii. Searching for sea birds associated with tuna.
iv. Locating or deploying fish aggregation devices, FADs, around which schools of fish are likely to aggregate.

4.2 Sequence of a Set (fishing event)

i. The skiff is deployed with the net.
ii. The vessel encircles the school at maximum speed.
iii. Once the encirclement is finished, the skiff transfers the net cables to the purse seiner who purses the net at its bottom.
iv. The net is hauled, and the fish brailed aboard.
v. After brailing the fish aboard and storing the net and the skiff, the vessel is ready to restart searching/fishing.

4.3 The main target species are:

a) Skipjack tuna (*Katsuwonus pelamis*).
b) Yellowfin tuna (*Thunnus albacares*).
c) Bigeye tuna (*Thunnus obesus*).

5.0 METHODOLOGY

5.1 Sampling method [amend the below as necessary to the procedures followed on this trip]

On each set day, tuna species are randomly selected and measured using the following criteria for the various set.

a) For up to 5 tonnes, 50 pieces of tuna are sampled.
b) For more than 5 tonnes but less than or equal to 10 tonnes, 100 pieces of tuna are sampled.
c) For more than 10 tonnes but less than or equal to 15 tonnes, 150 pieces of tuna are sampled.
d) For more than 15 tonnes but less than or equal to 20 tonnes, 200 pieces of tuna are sampled.

e) For more than 20 tonnes, 300 pieces of tuna are sampled.

Fork length of individuals measured are to the nearest centimetre with a measuring tape.

For bycatch species, the weight of each individual sampled is weighed and recorded in kilogrammes with the aid of a weighing scale. The various position(s) for daily activity are recorded using the GPS onboard the vessel. Midday positions are recorded for days without fishing activity.

Material used:

- Weighing scale (analogue)
- Tape measure
- Laptop
- Calculator and handbook
- GPS
- Watch

5.2 Cruise itinerary

[Complete as appropriate to the specific trip]

Date of departure from the port: [dd/mm/yy]	**Port/position of departure:** [Name of the port]; [latitude and longitude] e.g., Autonomous Port of Dakar, latitude: 14° 40′ 50″ N, longitude: 17° 25′ 40″ W
Date of arrival at fishing ground: [dd/mm/yy]	**Captain**: [First name, surname]
	Trip No.:
Date of return to port: [dd/mm/yy]	**Port/position of arrival:** [Name of the port]; [latitude and longitude] e.g., Autonomous Port of Dakar, latitude: 14° 40′ 50″ N, longitude: 17° 25′ 40″ W

5.3 Summary of fishing operations

[Complete as appropriate to the specific trip]

Total number of days at sea: [X days]	**Total number active fishing days:** [X days]	**Total number of days searching for fish:** [X days]	**Total number of travelling days:** [X days]
Total number of sets: [X sets]	**Total number of sets sampled:** [X sets]	**Total number of sets made on FADs:** [X sets] **Total number of free-school sets:** [X sets]	**Total number of FADs retrieved during the trip**: [First name, surname]

Total number of FADs deployed: [X FADs]	**Number of FADs not in compliance with the current ICCAT FAD requirements:** [X FADs]	**Fish storage method:** [e.g., brine freezing/blast freezing]	**Freezing of fish:** [Conditions of the freezing process – e.g., fish is kept in chilled brine water to attain a temperature of -12ºC to -15ºC]

Tuna species composition in metric tonnes (mt)

Species	**Weight (mt)**	**Percentage of catch (%)**
Skipjack tuna		
Yellowfin tuna		
Bigeye tuna		
Others/"soda"		
Total		

[Include bar chart of species composition of tuna and bycatch species landed using the information presented directly above]

5.4 Fishing and FAD deployment positions [insert map of purse seine sets and FAD deployment positions, example provided below from August 2019]

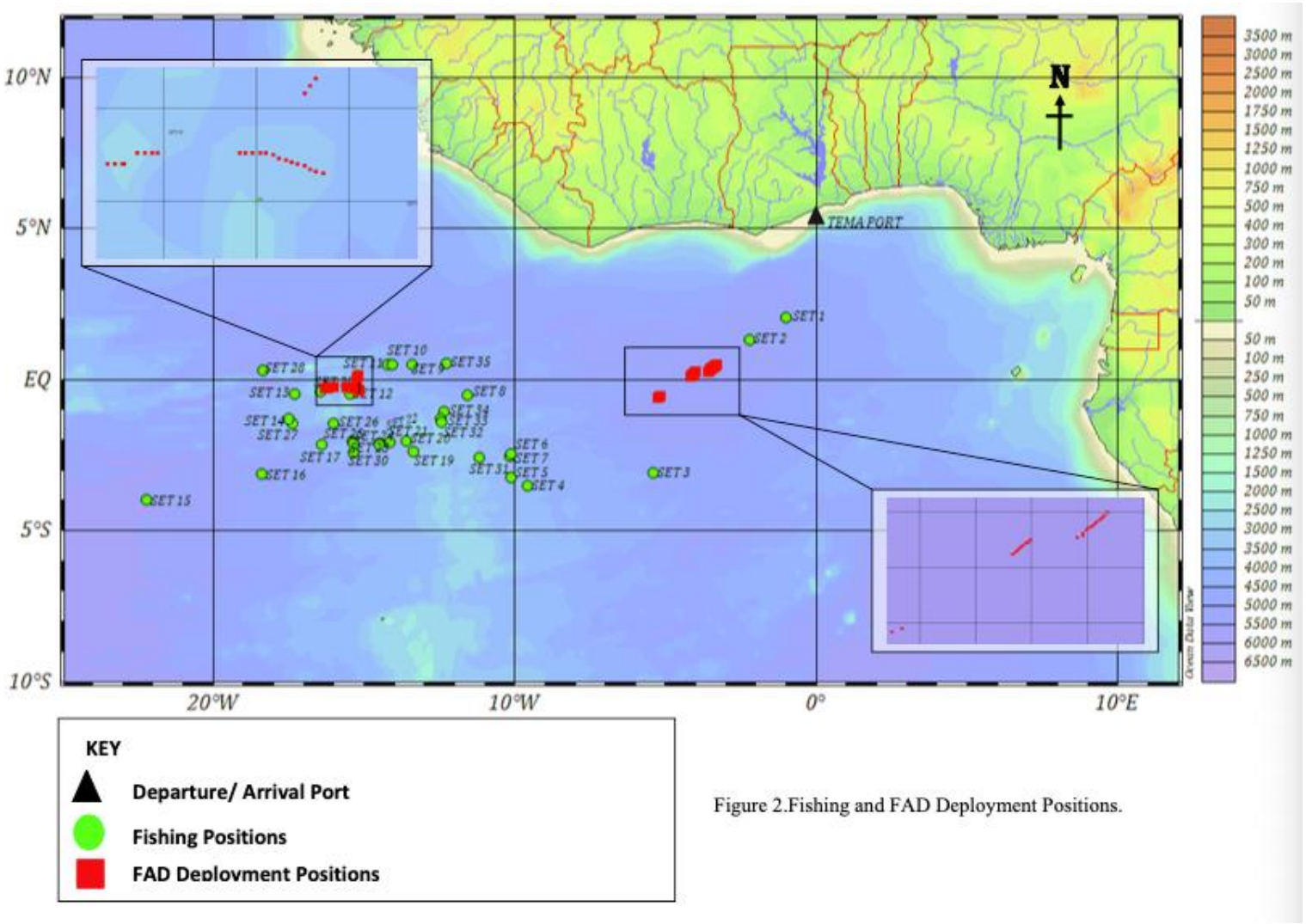

Figure 2.Fishing and FAD Deployment Positions.

Figure 1. Fishing and FAD deployment trip.

5.5 Bycatch estimate

Table 1. Non-sensitive bycatch species component and volume estimates (kg)

Species	Total catch (kg)	Percentage of total bycatch catch (%)	Total released (kg)		Total retained (kg)
			Dead	Alive	
e.g.: white marlin	890	15.34			
TOTAL					

[insert pie chart with the bycatch species breakdown by weight – see example provided below from August 2019]

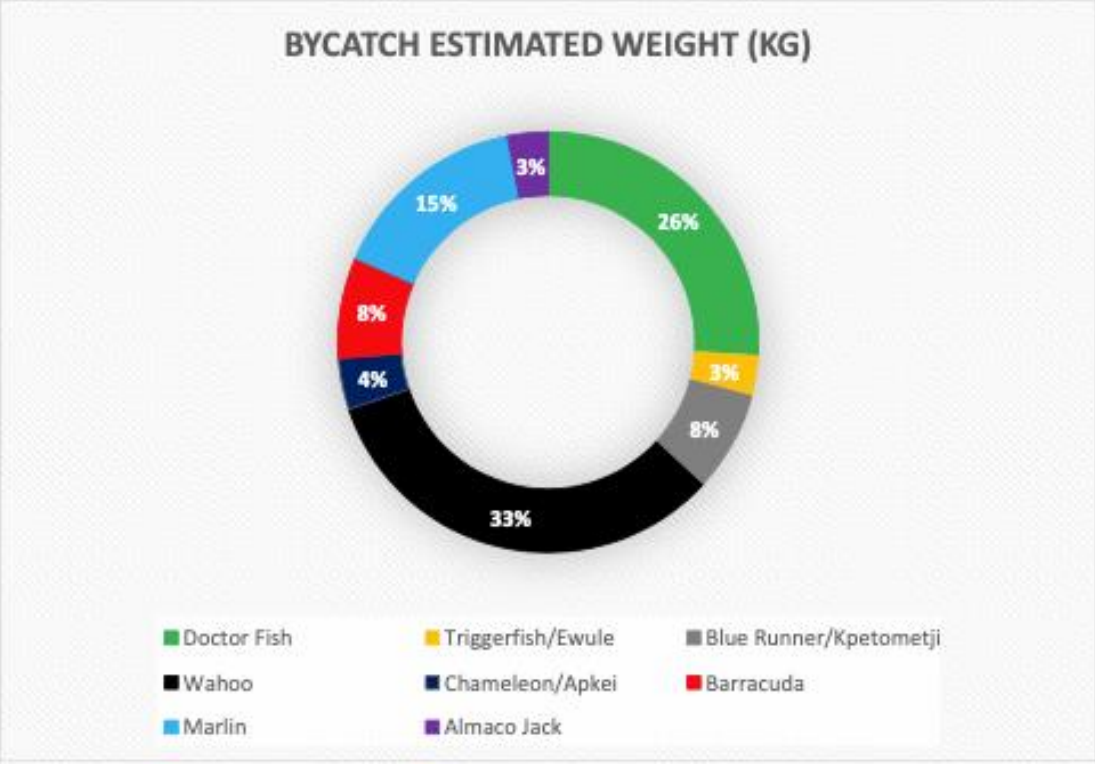

Figure 2. Estimated bycatch composition by percentage

5.6 Endangered (ETP) species

Table 2. Endangered species estimate

Species [common name]	Scientific name	Total catch number	Number released alive	Number released dead	Form of capture/interaction	Estimated weight and length of each ETP species in (kg) and (m) respectively	
e.g.: silky shark	*Carcharhinus falciformis*	57	40	17	e.g.: captured in seine/entangled in FAD/released before brailing		
e.g.: green turtle	*Chelonia mydas*	3	3	0			
TOTAL							

[insert pie chart with the ETP species breakdown by percentage]

Figure 3. ETP species percentage composition

[insert pie chart with the ETP species interaction with operations (landed on deck/entangled in FAD/released from seine prior to brailing]

Figure 4. ETP species interaction by percentage

5.7 Length frequency distribution of sampled tuna

Table 3. Length frequency distribution

Length (cm)	Skipjack	Yellowfin	Bigeye	Others	Total

5.8 Length frequency for skipjack tuna

[Insert graph illustrating length frequency distribution for skipjack – as per example from August 2019 given below.]

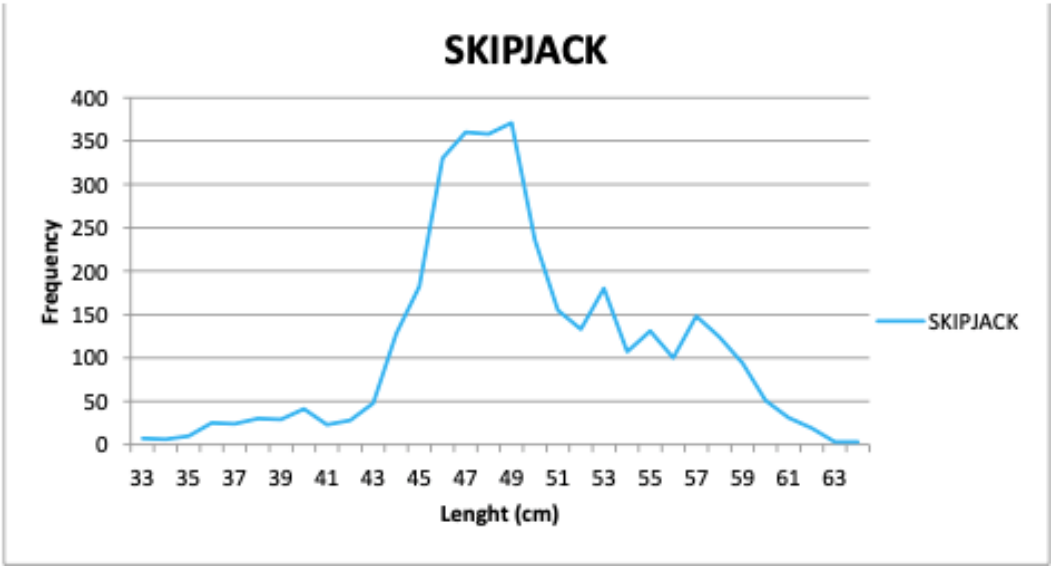

Figure 5. Length frequency distribution of skipjack tuna sampled during the trip.

5.9 Length frequency distribution for yellowfin tuna

[Insert graph illustrating length frequency distribution for yellowfin – as per example from August 2019 given below.]

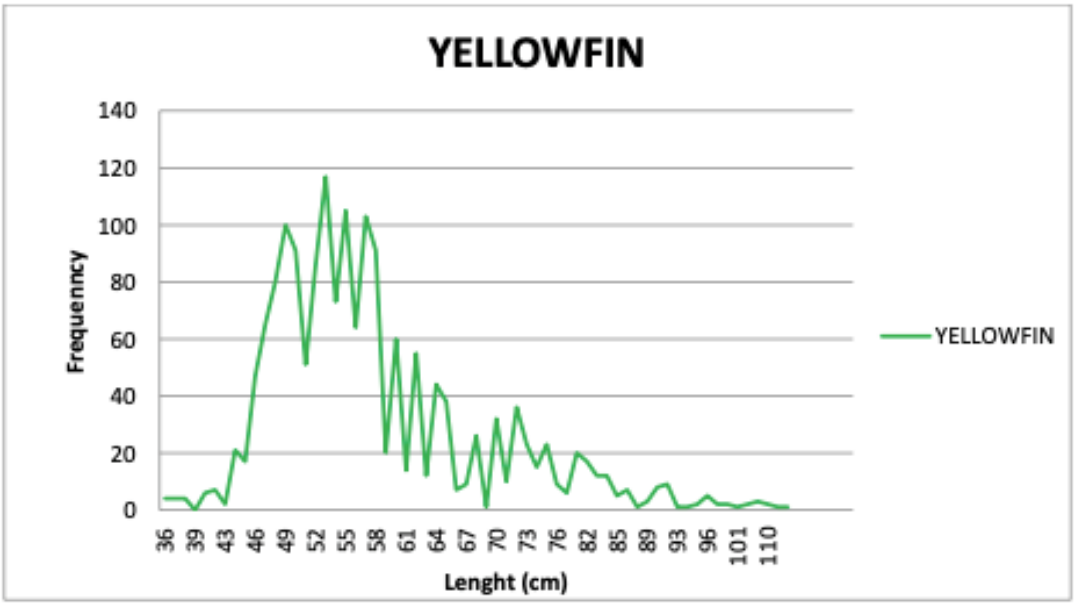

Figure 6. Length frequency distribution for yellowfin tuna sampled during the trip.

5.10 Length frequency distribution for bigeye tuna

[Insert graph illustrating length frequency distribution for bigeye – as per example from August 2019 given below.]

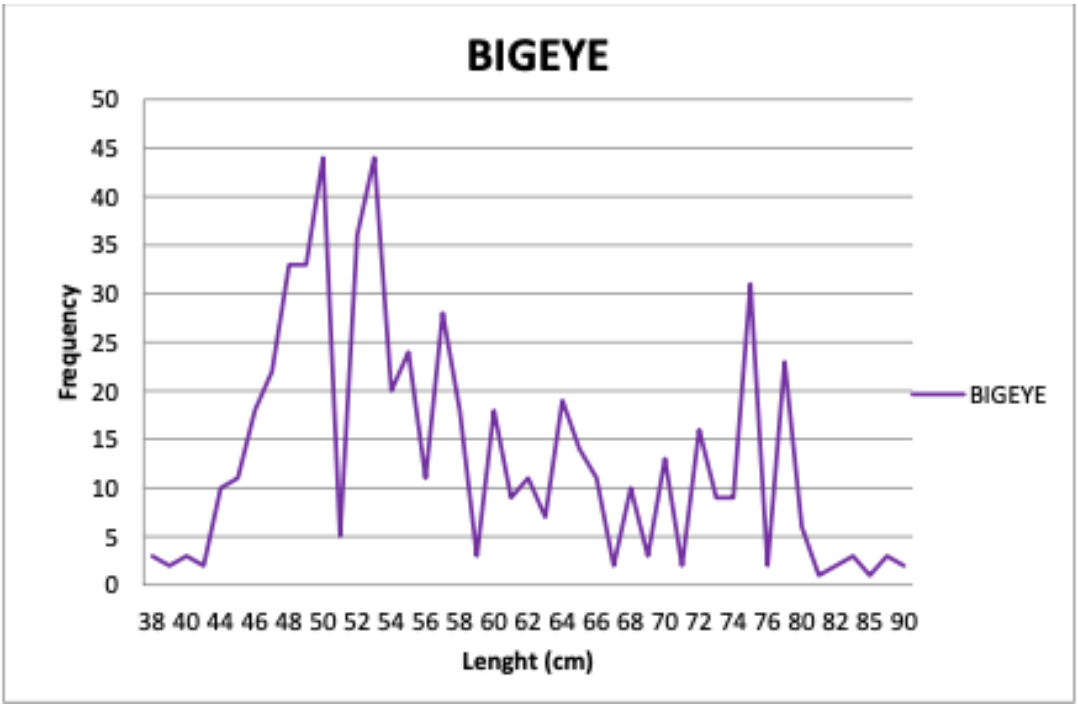

Figure 7. Length frequency distribution for bigeye tuna sampled during the trip.

6.0 FISH AGGREGATION DEVICE SUMMARY

6.1 FAD design

[Provide details of the design characteristics of FADs deployed during the trip. This would include materials of tail and raft, type of beacon/buoy used, FAD markings and identifiers, echo-sounder buoy markings and identifiers, and any issues with compliance with the current ICCAT Recommendation on FADs (i.e., Rec.19-02) on non-entangling and bio-FADs. Include example photographs where possible.]

6.2 Fishing, deployments and retrievals

[Record the position and the time of each FAD deployment, retrieval and fishing activity on a FAD. This would include the positions, dates and number of FADs deployed and retrieved during the trip in order to aid data collection on FADs in line with Rec. 19-02, at least FAD deployments and visits (complete annex). Record the particular FAD type for example artificial drifting, and also note the materials used for the FAD (for example sometimes bamboo, coconut branch, rope and net is used for making the FAD). State the condition of the FAD, whether it is old or new.]

6.3 Species interactions with FADs

[Include any comments/observations on biota interacting with the FADs on retrieval (e.g., sightings and entanglements), including photographs if possible.]

7.0 GENERAL COMMENTS

[Provide general comments about the trip, including but not limited to success of trip, how ETP species were handled (well/badly etc.), any illegal activity (discarding, retaining of prohibited species etc.), recommendations for improvements such as waste reduction, bycatch handling training for crew, anything else of note. Statement as to whether there was any collaborative fishing on the trip.]

8.0 VESSEL DETAILS

Vessel name: F/V …	**Company name:**	**Flag State:**	**Port of registration:**	
Radio callsign:	**MMSI number:**	**IMO number:**	**Overall length (m):**	
Gross tonnes:	**Net tonnes:**	**Breath (mould):**	**Depth to m/deck (m):**	**Depth to u/deck (m):**
Fish hold capacity:	**Registry number:**	**Vessel type:**		

Year built:	**Main engine capacity:**	**Deadweight (mt):**
F.O. TK capacity (mt):	**Fresh water (mt):**	**Drinking water (mt):**

8.0 CREW LIST

Table 4. Crew list

No.	Full name	Rank	Nationality	Date of birth	Passport number

Annex

List of deployed FADs and buoys

Trip data

FAD identifier		**FAD & electronic equipment types**		**FAD**		**Observation**
FAD marking	**Associated buoy ID**	**FAD type**	**Type of the associated buoy and/or electronic devices**	**FAD floating part**	**FAD underwater hanging structure**	
(1)	(1)	(2)	(3)	(4)	(5)	(6)

(1) If FAD marking and associated beacon/buoy ID are absent or unreadable, the FAD shall not be deployed.

(2) E.g., anchored FAD, drifting natural FAD or drifting artificial FAD.

(3) E.g., GPS, sounder etc. If no electronic device is associated with the FAD, note this absence of equipment.

(4) Mention the material of the structure and of the cover and if biodegradable.

(5) E.g., nets, ropes, palms, etc., and mention the entangling and/or biodegradable features of the material.

(6) Lighting specifications, radar reflectors shall be reported in this section.